Unequal Brachial Pressures
Is it a Big Deal

On a daily basis medical offices take hundreds of blood pressures. In most cases only one arm is evaluated. A vast majority of the population will not have symmetrical brachial blood pressures. A difference from one arm to the other is normally 2mmHg to 18mmHg. When there is a difference of 20mmHg or more, that is a good indication of a more serious concern.

Subclavian Steal Syndrome is a result of a proximal Subclavian artery obstruction proximal to the Vertebral artery origin causing retrograde vertebral flow. The Vertebral artery becomes the main source of blood flow for the effected arm. Innominate artery stenosis is a variant of Subclavian Steal Syndrome. In rare cases the Innominate artery can become obstructed causing similar issues.

About 85% of Subclavian obstructions occur on the left side. On the right side, however, the obstruction can be limited to the Subclavian artery, but may also involve the Innominate artery. The Innominate artery originates off the aortic arch and gives rise to the right common carotid artery and right subclavian artery. The Innominate artery is found only on the right side in a person with normal anatomy.

Unlike Subclavian artery obstructions, Innominate artery disease also effects the Carotid circulation.

When the right arm is exercised, the arm demands more blood flow to feed the muscles. When an Innominate artery stenosis is already “stealing” flow from the posterior circulation by causing retrograde vertebral flow, the anterior circulation can be compromised.

A person with Subclavian Steal Syndrome may experience a range of symptoms. In most cases people will remain asymptomatic until the stenosis becomes critical or occluded. As a result of decreased flow to the posterior brain people may experience light-headedness, dizziness, ataxia, vertigo, visual disturbances, motor deficits, confusion, focal seizures, aphasia, headaches or syncope. Reduced blood flow to the arm may cause exercised induced weakness, cold hands and fingers or paresthesias. If the Innominate artery is involved people may also experience symptoms from low flow to the anterior portion of the brain such right-sided amaurosis fugax or stroke.

Bilateral blood pressures should become part of the protocol during routine physicals for early detection of Subclavian Steal Syndrome. At the Vascular Lab of West Michigan we specialize in the early detection and diagnosis of peripheral arterial disease (PAD) including but not limited to the upper extremities.